

RAN, SHULAMIT: CONCERTO DA CAMERA II

ANALYSIS OF
PITCH AND FORMAL STRUCTURE

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The thesis speculates upon the three movements of Concerto da Camera II (1987), scored for Bb clarinet, string quartet and piano) in these four aspects: 1) the formal structure, 2) the manipulation of the notes of whole-tone, octatonic, and chromatic scales in octave displacement, 3) the potential combination of subsets that present different levels of pitch transformation in melodic and harmonic structure, and 4) the usage of intervals of minor seconds, tritones, and perfect fourths or fifths which dominates the linear writing. All of these features demonstrate that the music has strong structural elements in form, motives, and sonorities, which unify the piece in an aurally coherent style as an organic whole.

This study should provide more insight into the understanding of Ran's unique compositional technique and style.

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CHAPTER I

INTRODUCTION: BIOGRAPHY

Shulamit Ran, winner of the 1991 Pulitzer Prize for music, was born on October 21, 1949, in Tel Aviv, Israel. Ran started to compose before she began piano lessons at the age of 8. She believed that she could hear a melody while she was reading a poem. She said: “Composing was a very natural process to me--like speaking and eating.”¹ Her early piano teacher notated several of her original songs and sent them to the Israeli Broadcasting System-Children’s Corner. Two of the songs were performed by a children’s choir.

At the tender age of 14, she received a full scholarship to the Mannes College of Music in New York City. She majored in both piano and composition, studying with Nadia Reisenberg and Norman Dello Joio respectively. Ran premiered her own compositions: Capriccio for piano and orchestra with Leonard Bernstein and the New York Philharmonic in a televised Young People’s Concert in 1963, and Concert Piece for piano and orchestra with Zubin Mehta and the Israel Philharmonic in 1971. After graduation from Mannes, she took private piano lessons with Dorothy Taubman and

¹ Jane Weiner LePage, Women Composers, Conductors and Musicians of the Twentieth Century: Selected Biographies, vol. 3 (Metuchen, N.J.: Scarecrow Press, 1988), 215.

toured as a concert pianist in the United States, Canada, Israel and Europe. Her concert programs included various styles from composers such as Beethoven, Schumann, Schoenberg, Berg, Bartok, and Messiaen. The choices of these different composers influenced her future compositions. For example, in her Concerto da Camera II, one is reminded of Messiaen's "bird calls" as well as a Bartok-like ostinato in the introduction and middle sections of the third movement. In addition, the beginning of the first and second movement may sound similar to Schoenberg's *klangfarbenmelodie*.

In 1973, Ran joined the Department of Music at the University of Chicago where she currently teaches composition. In 1987 she was a visiting professor at Princeton University. The next year she received an honorary doctoral degree from Mount Holyoke College. In 1990, Ran was appointed Composer-in-Residence for the Chicago Symphony. During 1996-97 she took a year's sabbatical from teaching to finish and perform her opera, Between Two Worlds (The Dybbuk) in Chicago, in June of 1997. Most recently, her music, Mirage, for five players (flute, clarinet, violin, cello and piano) was performed for the second time in Dallas by the *Voices of Change* on March 17, 1997. (The first performance was in 1993).

Ran has received numerous grants, awards and commissions, including one from the Martha Baird Rockefeller Fund (1968), a Ford Foundation Grant (1972), the Fromm Music Fund Grant (1974), National Endowment for the Arts Grants (1975, 1984, and 1988), Guggenheim Fellowships (1977, 1990), Chicago Radio Station WFMT Commissions (1978, 1982, and 1991), and an individual commission from Chamber Music America (1984), the Eastman School of Music (1985), the American Composers

Orchestra (which commissioned Concerto for Orchestra, first performed in 1987), the Chamber Music Society of Lincoln Center (which commissioned Concerto da Camera II, first performed in 1987), the American Academy and Institute of Arts and Letters (1989), the Philadelphia Orchestra (which commissioned Symphony, first performed in 1990, and the work which won the Pulitzer Prize in 1991) and many more.²

About the Concerto da Camera II

It was commissioned by the Chamber Music Society of Lincoln Center in 1987. It is an intriguing composition for clarinet, piano and string quartet in three movements. The music sounds freely composed in a chromatic, contemporary style, with no functional harmonies from the common practice period. Its characteristics include: 1) octave displacements in certain scale patterns, 2) frequent specific interval usages (such as half steps and fourths or fifths) used vertically or linearly, and 3) different levels of pitch transformations which range from quoting the exact pitches of a previous section or movement, through pitch transpositions, to the transformations of cell-like sets which are involved in the construction of solo passages and cadences (i.e. superset and subset relationships).

Besides focusing on the above three characteristics, this thesis will analyze the formal structure of this piece. The title suggests that this is a chamber concerto. To that end, the Baroque ritornello principle is submerged in the formal design, as recurring

² The program notes (pages 11-12) from the disc Shulamit Ran-Mirage, released in 1996 by Erato Label.

sections happen in all movements. All instruments have various opportunities to be soloists with other instruments forming the supporting textures.

Of Ran's solo piano music, only five out of seven works, Sonata No. 2 (1967), Short Piano Pieces (1967), Structures (1968), Hyperbolae (1977), and Sonata Waltzer (1982), have been analyzed; and these works were discussed in Susan Breitner's DMA dissertation in 1995-96³. Breitner's work focused on Ran's piano works from a pianist's of view and provided motivic, formal and structural information about the music, including some technical performance suggestions and evaluations for performance. Two of the later piano pieces, Hyperbolae and Sonata Waltzer, are Ran's mature works. Breitner approached her description of these two works based on "variants" of initial materials. She said Ran created variants in two ways. First, the pitch classes remain the same while other aspects, such as rhythm, pitch alignment, duration ... etc., change. Secondly, "pitches, register and harmony may all change while the rhythm and contour remain the same."⁴

This thesis will be the first attempt to study her chamber music to date. Some of the "variant" techniques which Breitner mentioned are present in Concerto da Camera II, but the intricate relationships among motives, figures, and structure in this work is a challenging task to a theorist since section changes are not so clearly defined, and motives undergo transformations within and across sections. The musical result is a much more advanced, fluid style of motivic and figural integration. There is no one method which

³ Susan J. Breitner, The Piano Works of Shulamit Ran, Thesis. Urbana-Champaign: University of Illinois, 1996.

⁴ Susan J. Breitner, The Piano Works of Shulamit Ran, 10.

can define and explain this music. The methods must be chosen according to the special demands of the compositional process. This study should provide more insight into the understanding of Ran's unique compositional techniques and style.

List of Selected Piano and Chamber Music Compositions of Shulamit Ran

LePage's book, Women Composers, Conductors and Musicians of the Twentieth Century, has the most complete list of Ran's compositions up to 1980. There is still a lack of the information about recent works. Most of the information on recent compositions is from program notes which accompany the released discs.

Chamber Music

- 1968 Seven Japanese Love Poems
- 1969 O, The Chimneys, voice ensemble and tape
- 1972 Three Fantasy Pieces, cello and piano
- 1975 Ensembles for Seventeen
- 1977 Double Visions for Two Quintets and Piano
- 1978 Apprehensions, voice, clarinet, piano
- 1979 Private Game, clarinet and cello
- 1980 Excursions, for violin, cello, and piano
- 1985 Concerto da Camera I, for woodwind quintet
- 1987 Concerto da Camera II, for clarinet, string quartet and piano
- 1990 Mirage, for five players, flute, clarinet, violin, cello, and piano
- 1991 Chicago Skyline, for brass and percussion

Piano Music

1967 Short Piano Pieces

1967 Sonata No. 2

1968 Structures

1970 Ten Children Scenes

1977 Hyperbolae

1982 Sonata Waltzer

1982 Verticals

CHAPTER II


FORMAL DESIGN OF THE THREE MOVEMENTS

Although Ran, herself, emphasized that her music is freely composed, she also acknowledges the need of a structural basis for that freedom. The three movements of this work give an intriguing look into the flexible and integrated musical organization that is the framework for her “intuitive” composition. Each of the movements demonstrates the characteristics of a traditional sectional form, but the contrasts between the sections are defined in motives, tempo changes or solo/tutti instrumentation.

Some of these same differentiations are used as integrating factors across the sections as well, without obscuring the formal structure. This fascinating interplay of variety and unity is one of the strengths of her composition.

Movement I

TABLE I

Measure	Section	Tempo
1-18	Aa (1-8)	con spirito, marcato
	Ab (9-13)	a tempo
	Aa' (14-18)	subito tempo I
19-44	B	 = 72 - piu mosso - allargando
45-55	A'	piu mosso
56-64	Coda	meno mosso

The first movement contains four sections in which the organization is best defined as a ternary form with a coda. The sections are defined by differing tempi and motivic material. Generally speaking, the tempo indications mark the changing of sections although there are other tempo shifts within the sections. In addition, the balance of the section sizes reinforce the ternary principle with the “B” section being the largest and most developmental. Also, while the beginning of the A’ section strongly recalls the first A, it is shorter than the original one. Appropriately, the Coda is the shortest section, and recalls parts of the previous sections.

Section A (mm. 1-18)

The A section also sub-divides into three sections, somewhat compounding the form. Sub-section Aa begins with a motive which identifies all of the “A” sections. In the first five bars, all instruments participate in a contrapuntal statement using five notes of a whole-tone scale (see Example 1). These notes consist of A, B, D#, G, and C# in the musical order of their appearance. Certain interval relationships between pitches (i.e. seconds and thirds), which are grouped as the motives or phrases, are identical to other places within this movement. These specific intervals will be discussed later in Chapter 3. The eighth-note rhythmic pattern also is an important hint for the reappearance of the A' section in measure 45.

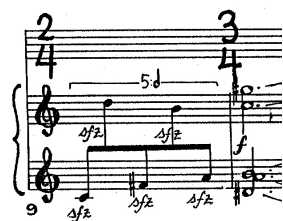
Example 1. Movement I, measure 1

The first sub-section ends in measure 8 with a cadence on the pc set [0, 2, 3, 5] (A)⁵.

Sub-section Ab extends from measure 9 to measure 13 (14). There is an elision in measure 14 as the piano part carries over the bar line from measure 13 to 14. These five (six) measures have similar rhythmic materials from the previous measures, such as the eighth-note motive in measure 9 of the piano (Example 2) versus measure 1, and a reappearance of the rhythmic bursts in measures 10-12 of the clarinet part, versus measures 6-7 (Example 3). But they also have differing pitch content, and static string chords add a contrasting element.

⁵ (A) means that the pitch name accompanying each pc set indicates the “zero” pitch of the prime form for that set, so that the exact group of pitches used can easily be identified or restructured. Unless otherwise noted, the set is spelled upward from that pitch. Sets which can be spelled symmetrically are listed only in ascending position. Therefore, this set is A, B, C, D.

Example 2. Movement I, measure 9 (piano)



Example 3. Movement I, measures 10-12 (clarinet)



(Example 3, cont.) measures 6-7 (clarinet)



Measure 14 is the cadence of the sub-section (Ab) as well as the beginning of the next sub-section (Aa'). In the approach to the cadence of measure 13, the pc set of the piano's right hand line is [0, 2, 3, 5, 8] (A) which is a specific superset of the first sub-section's cadence sonority [0, 2, 3, 5] (A) in measure 8 of the string parts (see Example 4).

Example 4. Movement I, measure 8 (strings) [0, 2, 3, 5] (A)



and measure 13 (piano, L.H.) [0, 2, 3, 5, 8] (A)



The third (and last) sub-section of A (Aa', measures 14-18) has the same pitches and articulation patterns as the beginning; giving an effect of an internal ternary return. However, these three small sections also have similar beginnings since all start with eighth-note motion. In measure 16, the piano part (l.h.) has a motivic gesture comprised of the exact pitches from the cadence of measure 4 in all the instruments (Example 5). Approaching the later cadence, the clarinet plays a clear motive in measure 17 which is the major third interval (B, D#) transposed from the last two notes of measure 12 (G#, C). This last sub-section of A ends in set [0, 2, 7](Gb) (Example 6).

Example 5. Movement I, measure 16 (piano)



and measure 4 (all)



Example 6. Movement I, measure 18 (clarinet, cello and piano) [0, 2, 7] (Gb)

Section B (mm. 19-44)

Section B sounds more improvisatory, and the texture becomes quite contrapuntal among the instruments. The composer uses longer (arpeggio-like) phrases of short rhythmic motives. But the motives still can be traced back to the previous A section. In measures 19-20 (Example 7), violin I has the pitches: B, D#, A, Bb which are similar in pitch and range to measures 17-18, in the clarinet.

Example 7. Movement I, measures 19-20 (violin I)

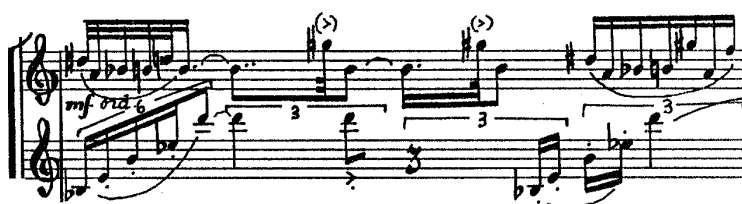


and measures 17-18 (clarinet)



In measure 22, the second violin introduces an important ascending arpeggio which is one of the main motives in this section (Example 8).

Example 8. Movement I, measure 22 (violin II)



Variations can be heard in measures 23, 25, 30, 37 and 39 as the counterpoint becomes more dense. In measure 26, the clarinet plays the same pitches (in the same order) of the motive from measure 11 and ends with the transposition of the major-third motive from measure 12. The gradual increase of density and intensity in the B section climaxes in measures 41-44 in coordinated rhythmic bursts in the strings which are set against “*furioso*” motives in the piano and clarinet. This change of organization also gives the effect of a “development” as opposed to the sectional nature of the A section.

Section A' (mm. 45-55)

The A' section returns with the eighth-note motion (and pitches) although now expanded beyond the original structure of the whole-tone scale. The pc set of the piano part in measures 45-46 is [0, 1, 3, 6, 7, 9] © down), which is a partially transposed superset of [0, 1, 3, 6, 7] (D#) from the piano part of measure 14 (Example 9).

Example 9. Movement I, measures 45-46 (piano) [0, 1, 3, 6, 7, 9] © down)
and measure 14 (piano) [0, 1, 3, 6, 7] (D#)



Measure 46 expands the motivic gesture to ten different pitches (no C# or F), used mostly in half-steps (Example 10).

Example 10. Movement I, measure 46 (clarinet)



The half-step motive of the rhythmic burst, first heard in measures 10-12, appears several times in this section (mm. 47-49 and 51) (Example 11).

Example 11. Movement I, measure 47 (violin I and II, viola)



Compared to the A section, this A' has longer lengths of phrases and the pitch structure is more complicated and developed than in the original. The pitch structure will be discussed in detail in Chapter 4.

Coda (mm. 56-64)

In this short section, the piano begins solo, and is joined by the string accompaniment, but the clarinet does not appear in these final statements. The piano statement of measures 56-57, after a brief expansion, returns with the exact pitches and

rhythm in measure 64, as a final cadence to the movement. The last chord adds only a doubling of the “C” in comparison to measure 57.

In summary, the overall ternary form of this movement is quite obvious, and is reflected in the internal ternary of the first A section, and the brief “rounding” in the cadence of the Coda. This intentional compounding of ternary principle on both macro- and micro- structure levels gives a unifying structure to the improvisatory nature of the surface elements. Ran makes use of both formal return and constant transformation of motives to relay coherence to the listener.

Movement II

TABLE II

Measure	Section	Designation
1-6	1 solo: pn.	$\text{♩} = 56$
7-17	2 tutti	piu lento -
18-23	3 solo:cl.	senza misura
24-29	4 tutti	mischievous - un poco meno mosso
30	5 solo: vc.	senza misura
31-35	6 tutti	
36	7 cl. & pn.	senza misura
37-51	8 tutti	tempo l'istesso $\text{♩} = 56$ - molto rubato
52-60	9 solo: pn.	tempo I

This movement is less formally organized than the first, as it alternates between solo and tutti in the manner of a “ritornello” of the Baroque period. The pitch structure is more chromatically derived, in contrast to the first movement with its usage of whole-

tone resources. Symmetrical expansions and permutations of chromatic scale segments are techniques of importance in this movement, and their usages often separate sections.

Section 1, mm. 1-6 introduction: piano solo

The piano part begins alone with E's in three octaves. The six-measure chordal introduction is based on the symmetrical axis around "E" and gradually spreads intervals in half steps in contrary motion from the upper two E's (Example 12). This also establishes a tonal level of E; versus the beginning of the first movement, which centers on A.

Example 12. Movement II, measures 1-6 (piano)

(D) <-D# <- E -> F



Section 2, mm. 7-17 tutti

This section is in contrapuntal texture, and contrasts the quite static introduction. The nuclear phrase occurs in mm. 7-10, but begins by imitating the symmetrical additions around E of the first section, with symmetrical half-step additions around G# in measure 7 (Example 13).

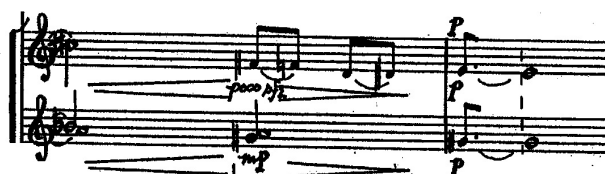
Example 13. Movement II, measure 7 (strings)

G <- G# -> A



The piano part in measure 11 employs a subset of the “C#/D” octatonic scale. Each instrument's line is generally a segment of the chromatic scale, but the linear permutations are not in any particular order. For instance, in measures 12-14, violin I has the chromatic range from C# up through F# (but with octave displacement of the C#); violin II shows the limited chromatic range from G# up through B-flat (Example 14); and the piano part in measures 15-17 employs the chromatic notes from F# up through B-flat (Example 15).

Example 14. Movement II, measures 12-14 (violin I and II) C# up to F#



Example 15. Movement II, measures 15-17 (piano) F# up to Bb



Section 3, mm. 18-23 clarinet solo

This cadenza-like section is freely-metered and sounds much like an improvisation between piano, viola and clarinet. The motives and phrases contain many half steps and tritones as measure 18 decelerates from rhythmic diminution. Of interest is the fact that measure 19 brings back a brief piano reference to the first section, by its stacked “E’s” with a symmetrical chromatic expansion. This statement is followed by a brief dialogue between viola and clarinet. Then the improvisatory clarinet rises to a cadence which is punctuated by a brief piano codetta.

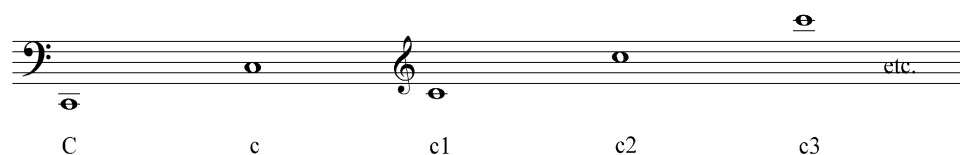
Section 4, mm. 24-29 tutti

This “mischievous” little section seems to continue the improvisatory atmosphere in the strings (which was begun by the clarinet and piano in section 3), rather than providing a contrast to it. In fact, these two sections could be considered as a single continuation of this improvisation by the two groups of instruments. From measures 26-29, chromatic half steps dominate the violin and viola lines in thirty-second-note motion.

Section 5, m. 30 cello solo

The cello begins with open fifths of different sizes, diminished and augmented. These fifths (along with seconds) have been displaced into different octaves. For instance, in measure 30, the solo line begins with g#1⁶ and f#; and later uses d and Eb

⁶The system of pitch identification used throughout this thesis is:



(Example 16). When the meter changes to 6/4, the cello solo recalls the beginning of its melody (from the first line of measure 30).

Example 16. Movement II, measure 30 (cello line)



Section 6, mm. 31-35 tutti (string quartet)

Following the cadenza-like extended measure of the solo cello, the tutti returns as the full string quartet. In this section, seconds and tritones still dominate the cello melody. (Example 17). The melodic line is intensified by the pitch ranges of the violin II, viola and cello which are higher than violin I.

Example 17. Movement II, measures 31-32 (strings)



Section 7, m. 36 clarinet and piano

The beginning of the clarinet's motive is similar to the string gestures in section 5. The piano part adds chromatic patterns in clusters, recalling parts of the string chromatic figures from measures 26-28.

Section 8, mm. 37-51 tutti

The cello part in measures 37-38 begins as a direct quote of itself from the “solo”

in section 5 (measures 30-32). The piano eventually uses all twelve notes of the chromatic scale in three octaves in measure 38 (Example 18).

Example 18. Movement II, measure 38 (piano)

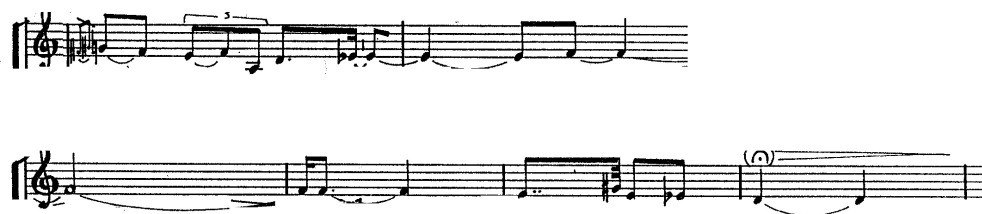


There are two different scale patterns in this section for violin I: at first the B/C octatonic scale is seen in measures 39-42 (Example 19), and, later, the chromatic scale (from D up through A) is seen in measures 45-50, but with the A displaced down an octave (Example 20). This displacement calls to mind measures 12-14 (Example 14).

Example 19. Movement II, measures 39-42 (violin I)



Example 20. Movement II, measures 45-50 (violin I)



Section 9, mm. 52-60 postlude

The piano part revisits the very beginning of this movement. But here, the composer uses only the first three different chords. From measure 55 onward, the viola

The third movement, like the second, is also less formally structured than the first. Both the second and third movements are organized into alternating sections, but the third movement is divided into twelve sections by the interrupting “X” phrase which suggests a “rondo” form. This makes the alternation more motivically defined than in the second movement, where the nine sections are better defined by changes of instrumentation between “solo” and “tutti”.

Section A mm. 1-3

The three-measure-long introduction is an essential foundation of pitch structure which also functions as the harmonic supporting skeleton for the second C section (mm. 68-81). Much of the construction of these chords is in intervals of half-steps (as 7ths and 9ths) and tritones.

Section X mm. 4-7

The “X” phrase begins with a $g1/f\#1$ trill, and is a very dramatic, articulate piano motive which is doubled at the octave. It is limited to the chromatic range from $c1$ up to $b1$, with only one $e2$ displaced into the next octave (see Example 22). The “X” motive recalls the clarinet in measures 6-8 of the first movement.

Example 22. Movement III, measures 4-7 (piano)

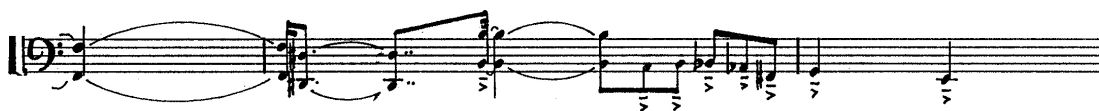


Section B mm. 8-19

The half-step motion is a motivic factor in this section. The chromatic scales are spread with octave displacement by both violin II and cello from F# up to D#, violin I from E up to C and viola from C up to A in measures 8-10. This aspect will be discussed in detail later in Chapter 3. This section can be divided into two parts: measures 8-13 and 14-19. These two parts parallel each other in that they both grow from an initial half-step motive of G-F#. These pitches recall the trill which begins the previous section, “X”.

The varied re-usage of this half-step demonstrates a fascinating technique which accomplishes both contrast and correspondence between sections. The contrapuntal lines are complicated and the melodic contours are often in contrary motion between instruments. The clarinet in measures 11-13 repeats and then varies its line in measures 18-19, as it re-introduces the return of the “X” section in measure 20. The cello line in measures 17-19 gives a hint (in diminution) of the viola and cello motion in measures 24-28 of the C section (Example 23).

Example 23. Movement III, measures 17-19 (cello)



and measures 24-28 (cello and viola)



Section X (second) mm. 20-23

This section is an exact repeat of the piano phrase in the first “X” section.

Section C mm. 24-49

This is the longest section of the movement. The quasi-ostinato rhythmic patterns occur in the upper two voices of the string quartet, with the lower two instruments singing the long-note melody in octaves underneath. These relentless repetitions remind one of Bartok’s string quartets. The motives of this viola/cello melody use half-steps and tritones much of the time, and the doubling at the octave recalls the cello’s more agitated octave double-stops in measures 17-19. From measure 38 on, the repeating dotted eighth- and sixteenth-note motive strongly drives the music, and rhythmic diminution accelerates the section to its elided climax with the return of “X” in measure 50.

Section X’ (third) mm. 50-52

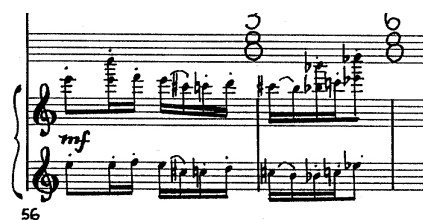
This “X” idea shows only part of the trill phrase in the original pitches of the piano before it is taken over in transposition and imitation by the other instruments. These few bars briefly develop the phrase--hence the “X” designation.

Section D mm. 53-67

In this new section, the half-step continues to play an important role. This section is divided into three uneven groups: 5 + 4 + 6 by the texture changes between instruments. The piano part in measure 56-57 is repeated against the same string *pizzacato* in measure 61. Then it is repeated in rhythm but varied in pitch and texture in measure 66. Finally, the first violin parallels it in transposition in measure 67. While the

second appearance is an exact repetition of the first, the last two are variations, with similar melodic contours and rhythmic patterns (see Example 24).

Example 24. Movement III measures 56-57 (piano)



measures 66 (piano)



and measure 67 (violin I)



Section C' (+ A) mm. 68-91

The C' section returns with a direct quote of the first six bars of C (mm. 24-29) in the strings, now superimposed over the piano chords of the beginning measures (1-3) of this movement. But in this section, the chords are used in an irregular augmentation of their original rhythm. This extends the material of measures 1-3 through measure 81. In the first quarter of this section, the string quartet motives in measures 68-73 are the same

as in measures 24-29. Measures 74-79 follow with a variation of the previous phrase.

Measures 81-86 then quote measures 74-79, but are not supported by the piano chords.

Again, this section combines old elements in unique new ways to provide both structural correspondence and contrast.

Section E mm. 92-111

This new contrasting section is introduced by a long clarinet ostinato with a minimum of piano and strings support (mostly cello) underneath. In measure 101, the melody of violin I echos the previous clarinet motive, and is also answered by the piano with a similar motive one-and-one-half beats later. The piano motive leads to a response by the other instruments, and, eventually to a full-blown tutti (measures 108-111). The most important feature of this section is again the strong dotted rhythmic patterns in all instruments.

Section (quasi-cadenza) mm. 112

This piano cadenza again recalls previous usage by citing several chords from measures 1-3, but with arpeggios inserted between the chords (see Example 25).

Example 25. Movement III, measure 112 (piano) and measure 1 (piano)

The image displays two musical staves side-by-side for comparison. The left staff represents measure 112, featuring a piano part with a forte dynamic (*ff*) and the instruction "with aplomb". It includes a bass line with a dotted rhythmic pattern and a treble line with a melodic line. The right staff represents measure 1, showing a piano part with a forte dynamic (*f*) and a similar dotted rhythmic pattern in the bass line and a melodic line in the treble. Both staves include a pedal point marked "ped." at the bottom.

Section F mm. 113-131

The piano part again quotes from measures 1-3 in measures 113-119, while the arpeggio motive in the clarinet is derived from the first movement. Basically, the piano provides support throughout the section for dialogue between the string quartet and the clarinet. Rhythmic diminution occurs in measure 130, which is based on the previous bar (Example 26). The same technique was used in the first movement, measures 24-27.

Example 26. Movement III, measures 129-130 (clarinet and strings)



Section X'-coda mm. 132-136

In measure 132, the whole-tone scale sonority in the strings and clarinet recalls the beginning of the first movement to become the coda (Example 27). This adds closure to the work as a whole. In measure 133, the trill motive also returns briefly in the piano, but is transposed up a perfect fourth from its first appearance in measure 4 of this movement. The work ends with a cadence chord consisting of eleven different chromatic notes, excluding B!

by the little “X” phrase (which is never more than 4 bars.) This phrase provides both contrast to, as well as correspondence with the larger sections, much in the style of an advanced rondo.

CHAPTER III

OCTAVE DISPLACEMENT

Usages of octave displacement of scales are found throughout the movements. The composer uses specific scales not only in different octaves but also spread into different instruments. Sometimes the displacement is used to show a symmetrical structure. I will categorize the octave displacement in three different types of scales: whole-tone, octatonic, and chromatic scales. These scales function in various ways; they can be melodies, transitions, or vertical harmonies. Since the work begins with a whole-tone scale melody, I will choose to discuss the whole-tone scales first, then octatonic scales and finally chromatic scales.

a) whole-tone scale:

Since there are two transpositions of whole-tone scales in an octave, I will designate them as the “B” or “C” whole-tone scales. (See Example 28)

Example 28.

“B” whole-tone scale:



“C” whole-tone scale:



Movement I

The opening theme forms a B whole-tone scale with one missing pitch (F). The scale ranges from d#1 to c#2 and is spread across all of the instruments. Only the “G” is displaced outside this octave when it is heard in the clarinet at g2 in the beginning and at the end of the first four-measure phrase. Example 29 shows that the strings and piano supply a1, b1, d#1, and c#2 and the clarinet has g2 in a higher octave. This whole-tone formation functions as an opening theme for this work. The octave placements of the clarinet, violin I, viola, and cello are arranged symmetrically, both horizontally and vertically. For example, the clarinet starts on g2 and ends on g2, and violin I begins on a1, then rises to b1, and drops back to a1.

Example 29. Movement I, measure1 (all)

The whole-tone theme appears again in measure 14 (Example 30), in only the string instruments, as the piano part provides support with other pitches.

Example 30. Movement I, measure 14 (strings)



Here, the piano notes are a different scale pattern from the strings, and will be discussed later in the octatonic scale section. Comparing this to the strings' whole-tone-scale theme in measure 14, once again the cadence (in measure 16) “resolves” by adding c2 and b-flat2 to the original whole-tone pitches in the strings, and c2 in the piano. This last “comment” in the piano recapitulates all the whole-tone notes used, but also adds the C.

Just prior to the end of first section of Movement I in measure 16, the piano (left hand) plays the eighth notes which recall the opening motive but in a permuted order, with a telescoped octave displacement. These six different notes almost form a “B” whole-tone scale except for the “C” note (see Example 31). The right hand note B-flat does not belong to the “B” whole-tone scale but does double violin II. Compared to the beginning theme, the piano part in measure 16 is more of a free choice, instead of being

focused as an opening gesture. Maybe this is one of the reasons that Ran chose to add the “C” note to decorate the whole-tone scale.

Example 31. Movement I, measure 16, (piano, l.h.)



b) octatonic scale:

The symmetrical octatonic scale can be thought of as being constructed from two different fully-diminished seventh chords. There are three different transpositions of these scales. I will refer to these transpositions as either “B/C”, “C/C#”, or “C#/D” scales.

Example 32. (Octatonic scales)

“B/C” octatonic scale:



“C/C#” octatonic scale:



“C#/D” octatonic scale:



Movement I

In measure 9 (Example 33), the piano has the notes c1, d2, f#1, b1, a1, d#1, and g#2 which comprise the “B/C” octatonic scale with a missing note (F), although a brief motive in the first violin momentarily adds a “G”, which is a non-scale tone. It is interesting to note that “F” was also the missing pitch in the whole-tone scale usage in measure 1. In measure 9 the motive appears as a broken arpeggiation followed by a chord in measure 10. The linear part functions as a transition to introduce the next music passage, and the chord (measure 10) adds the rest of the pitches as a harmonic support for the clarinet.

Example 33. Movement I, measures 9-10 (piano)



In Example 34, the piano plays part of the “C/C#” octatonic scale as a harmonic support for a whole-tone restatement of the opening theme. This chord only has five notes with C, C#, and G missing, but two of these three notes (C# and G) appear in the recurring whole-tone motive in the strings.

Example 34. Movement I, measure 14 (piano)



Movement III

Before the third (truncated) appearance of the X motive, the clarinet and strings play a series of “C/C#” octatonic scales in measure 48 (Example 35). This octatonic scale leave out one note – (E). The scale pattern only lasts one measure and stops on the downbeat of measure 49. Beginning with measure 49, the notes form a chromatic scale. (See Example 35)

Example 35. Movement III, measure 48 (clarinet and strings)



In addition, Example 36 illustrates the “B/C” octatonic scale in vertical sonorities, (as well as cadence points) instead of in linear presentations. These two sonorities (in measures 121 and 125-126) are also cadence points for their respective phrases.

Example 36. Movement III, measures 119-121, and 124-126 (strings)



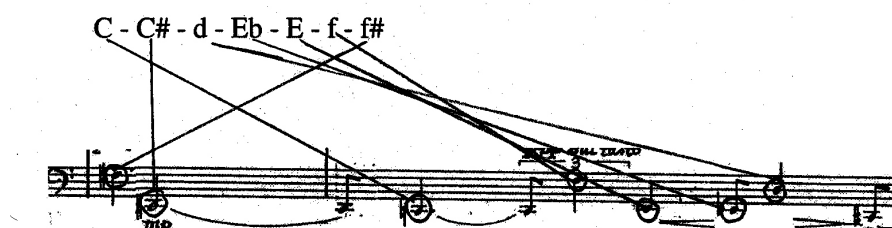
c) chromatic scale:

There is an interesting way that Ran uses chromatic scales in this work. She chooses notes from a continuous segment of the scale, but does not employ them in a particular order. This usage is often found in a solo melody or bass motion, and most often in the third movement. The most obvious usages are discussed below.

Movement I

In measures 17-19, the cello has the chromatic notes f#, C#, C, f, E, E-flat, and d, within the scale range of C up to F#. These individual chromatic notes spread into two octaves. This usage of a partial chromatic range becomes a very important idea in the third movement (i.e. mm. 24-33, see Example 42, also).

Example 37. Movement I, measures 17-19 (cello) C up to F#



In measure 28, the piano plays a three-note chord (C#, d1, and e-flat), which is a chromatic segment, and is followed by a sequence of minor thirds descending somewhat chromatically in measure 29. These descending thirds seem to echo the first two beats of the viola which has just played an ascending *glissando* in this measure (not shown here). The thirds employ the chromatic segment from d-flat down to E, but with G and A missing.

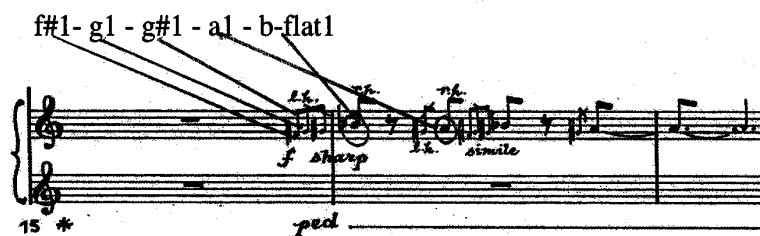
Example 38. Movement I, measures 28-29 (piano)



Movement II

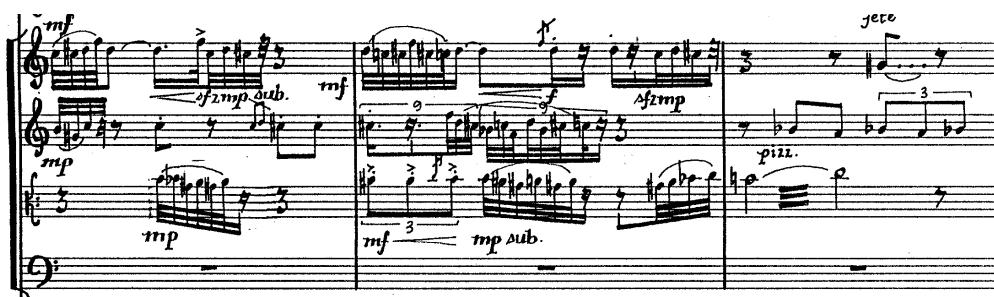
In movement II measures 15-17 (Example 39), the piano plays the chromatic segment from f#1 up to b-flat1 but with a musical emphasis on b-flat and a in longer value notes. These notes echo the string motives in the same octave.

Example 39. Movement II, measures 15-17 (piano) f#1 up tp b-flat1



In Example 40 (measures 26-29), we can observe more half-step motions. The three upper strings have motives which are very tense, both rhythmically in thirty-second-notes and melodically in chromatic usage. Especially in the viola line, the notes range from g#1 up to c2. Violin II employs the same range, but also adds f2, outside of this chromatic segment. Violin I adds c#2 and d2 to the upper end of the chromatic range and also touches on f2.

Example 40. Movement II, measures 26-29 (viola) g#1 up to c2



Movement III

At the beginning, the strings emerge from the seven-measure-long piano introduction. They dominate the melody in measures 8-10 (Example 41). Violin I has the notes: a1, g#1, b1, b-flat1, f,1 f#1, g1, e2, and c1 which are in the chromatic range

from E up to C, although they do not appear in any particular order. The e2 only appears in octave displacement (up one octave), but the f1, g#1, and a1 are repeated in this octave at the end of the phrase. The viola has the chromatic range from C up to A, but the c and d-flat only appear displaced an octave lower. Violin II has the chromatic notes from f1 up to d#2, but b is missing from this segment. The cello has nearly the same range (f# to d#1) an octave lower, but these two instruments have contrapuntal lines, not ones in parallel. At the end of its phrase, the cello cadences with a displacement two octaves below, and in parallel to the viola's displacement. Due to the resulting chromatic verticalities, the somewhat paralleled pitch ranges of the violins and cello will not be obvious to the listener.

Example 41. Movement III, measures 8-10 (strings)

violin I	E up to C	violin II	F up to D#
viola	C up to A	cello	F# up to D#

The musical score displays four staves for strings: Violin I (vn. I), Violin II (vn. II), Viola (va.), and Cello (vc.). Measures 8 and 9 are shown above a double bar line, and measures 10 and 11 are shown below it. The notation includes various dynamic markings such as *mp*, *mf*, *f*, *f sub.*, *p sub.*, and *ff sub.*, along with accents and slurs. The Viola part in measure 10 includes a triplet of eighth notes. The Cello part in measure 10 includes a triplet of eighth notes. The score illustrates the chromatic movement of each instrument as described in the text.

Chromatic range is also a major factor in measures 24-33 of the viola and cello lines (Example 42). The octave doublings appear in this order: C#, C, F#, F, E, D, E-flat, G, and eventually, G# which are the notes from C up to G# in the chromatic scale.

Example 42. Movement III, measures 24-33 (cello) C up to G#



In this melody, only the E and F# are displaced into the octave above. This melodic line is punctuated by chromatic motives in the two violins which range from b-flat2 to d3, but with the d also displaced an octave below, and the c# displaced two octaves below. Of interest is the fact that c3, the center of this symmetrical group, only appears as the phrase ends in measure 36, in Violin I.

In Example 43, the viola and cello double at the octave as both instruments spread the notes in a chromatic segment from B up to F#. Here, the octave displacement upward takes place about halfway through the melody. These two measures function as the transition passage between two sub-sections.

Example 43. Movement III., measures 40-41 (viola and cello) B up to F#



In Example 44, the left hand part of piano uses eleven pitches of the chromatic scale, only omitting A. F#, G and B are each repeated once. As is often the case in this work, the octave displacements occur to turn half-step motions into sevenths or ninths.

Example 44. Movement III, measures 46-47 (piano l.h.)

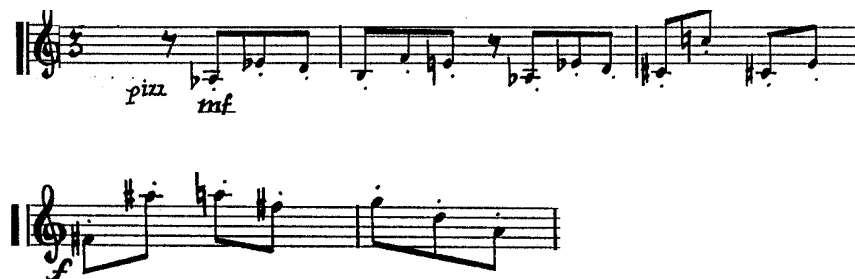


In measure 48 of this movement, Ran uses all of the strings in the “C/C#” octatonic scale, with only the E missing. But in measure 49, the usage turns more chromatic. Here, the composer employs ten different pitches and leaves out only B and F. These ten pitches are built on the same octatonic scale as the previous bar, but with the addition of D and G#.

Example 45. Movement III, measures 48-50 (clarinet and strings)

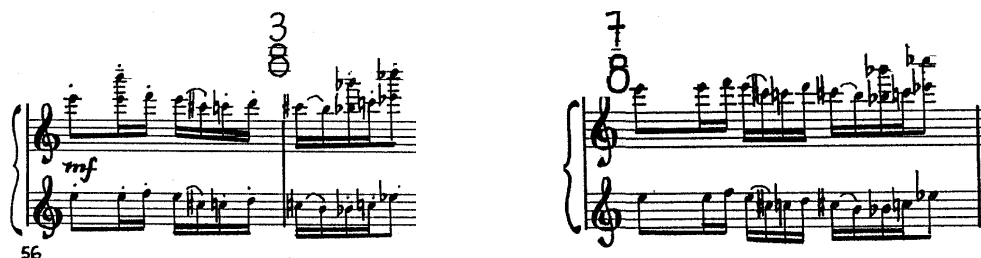
Within three bars, the scalar basis has turned completely chromatic. In measures 53-57, the eighth-note motion of Violin II uses all twelve chromatic notes in the phrase, with a few notes repeated.

Example 46. Movement III, measures 53-57 (violin II)



During this phrase, the piano enters with a chromatic comment that spans the range from b-flat1 up to f3. Here, although there are octave doublings, there are no octave displacements within the primary lines. Also, as shown in Example 47, the piano has a slightly varied return in measure 61.

Example 47. Movement III, measures 56-57 and 61 (piano) b-flat1 up to f3



In measure 62-62 (Example 48), this unique violin line presents a linear mixture of minor thirds and half-steps. The content of these four measures forms a chromatic range from g#2 up to c#3 as well, and again, shows no octave displacement from this range.

Example 48. Movement III, measures 62-65 (violin I) g#2 up to c#3



In summary, the octave displacements tend to obscure the usage of whole-tone, octatonic, and chromatic scales in this work. In the first movement, both the whole-tone and octatonic scales form the framework for vertical and linear statements, although vertical usages would more logically have octave displacement. These structures often also show a symmetry in the octave arrangements.

In the third movement, Ran gravitates more toward using segments of the chromatic scale in linear settings. It is important to note that these are continuous scale segments, and not just random selection from the twelve pitches. In these usages, the octave displacements play a major role in obscuring the scale segment being employed, and add depth and drama to the linear motives by turning half-step adjacencies into sevenths and ninths.

CHAPTER FOUR

THE DOMINANT PITCH CLASS SETS

In my personal interview with the composer, Shulamit Ran stated that this is a “freely composed” work. She did not begin with any pre-compositional ideas of scale patterns or pitch class sets to be used either linearly or as vertical sonorities. However, to the ear of the listener, the music always sounds somewhat consistent and correspondent in structure, even when pitches are not identical. The previous chapters have discussed this work from the point of view of formal structure, scale patterns, and octave displacements of scales. This chapter will discuss different levels of pitch transformations which range from quoting the exact pitches of a previous section or movement, through pitch transpositions, to the transformations of cell-like sets which are involved in the construction of solo passages and cadences (i.e. superset and subset relationships).

First Level:

On the first level, Ran uses repetition of several important motivic citations to recall elements of construction in the formal scheme. In the first and second movements, the citations are taken directly from previous themes or chords. In the second movement, citations function as more of a recall of the opening theme in measures 52-60 (Tempo I) (see Example 49).

Example 49. Movement II, measures 52-56 (piano)



In the third movement, the piano introduction becomes the foundation material for later sections. The following examples demonstrate the first level of untransposed pitch structure.

Movement I

In measure 14, the strings bring back the exact rhythm and octave-specific pitches of measure 1 to signify the return of section “A” as “Aa” in the internal ternary form. In doing so, only two changes have occurred: First of all, the clarinet and violin I pitches have been shifted into the first and second violin (leaving out the clarinet), and the violin II pitch has been combined into the viola part. These shifts result in some timbral changes of the same pitches. Secondly, the piano in measure 14 simply holds a cadence chord, rather than doubling the specific octave pitches of the strings as in measure 1. This chord duplicates the D#/A tritone of the strings, but adds three other notes to give a bit more pitch “color” to measure 14. In measure 45, three of the four original pitches (excluding C#) are again heard in a permuted order to open the third “A” section. This is the beginning of the larger ternary return. Again, the developing piano chord reinforces these, and adds other pitches.

Example 50. Movement I, measure 1 as seen in measures 14 and 45 (all)

The image displays three musical staves for Example 50. The first staff on the left represents measure 1, featuring a complex orchestral texture with dynamics such as *Afzmf*, *f*, and *p*. The second staff on the right represents measures 14 and 45, where the tempo changes to *subito tempo I* and the dynamics shift to *mf*. The piano part at the bottom includes a *ped* (pedal) marking.

Example 51 shows an interesting example where the vertical sonority (chord) has been reformed into a horizontal melody. In measure 16, the decelerating linear motive in the piano (left-hand part) recalls the cadence chord pitches (G, A, C#, B, D#, B, and C) of all the instruments in measure 4, with some octave displacement. Both gestures, although musically distinct, serve to define an internal cadence in the movement.

Example 51. Movement I, measure 4 (chord) as seen in measure 16 (piano, l.h.)

The image displays two musical staves for Example 51. The first staff on the left represents measure 4, featuring a complex orchestral texture with dynamics such as *Afz*, *Afzmf*, and *f*. The second staff on the right represents measure 16, where the piano (left-hand part) features a decelerating linear motive with dynamics like *mf subito* and *mp*. The tempo is marked *molto rit.*

The clarinet motives of measures 11 and 12 return in a slightly condensed, but exact linear quotation in similar rhythmic groupings in measure 26. However, the sonority which under-pins these motives changes from five notes in the piano to just a double-stop of two different pitches in the cello -- again, slightly changing the timbral support. This motivic return is a subtle unifying factor between the otherwise contrasting A and B sections of the large ternary form.

Example 52. Movement I, measure 11 as seen in measure 26 (clarinet)



The major-third-interval motive in the clarinet in measure 17 is recalled in a rhythmically condensed form in violin I in measure 19, but the continuation of the phrases differ. This close recall adds another element of continuity between the end of the large A section and the beginning of B.

Example 53. Movement I, measure 17 as seen in measure 19 (violin II)



The “dark, viola-like” perfect-fourth motive in the violin I in measure 28 returns in measure 33, but with differing melodic contours afterward. It is followed by a transposed echo of the motive by the clarinet (down a tritone) when the phrase ends in measure 34.

Example 54. Movement I, measure 28 as seen in measure 33 (violin I)



The violins and viola re-introduce the half-step rhythmic motive, *fortissimo*, in measure 47. Although this motive is derived originally from measure 11 in the clarinet, it is transposed down an eleventh in this instance. This transposed rhythmic burst repeats in measure 48, grows into the generating motive for a phrase in measures 49-50, and is again repeated (and extended) as a final comment in measure 51. The recurrence of these elements again links the two “A” sections of the larger ternary form.

Example 55. Movement I, measure 47 as seen in measures 48, 49, and 51 (strings)



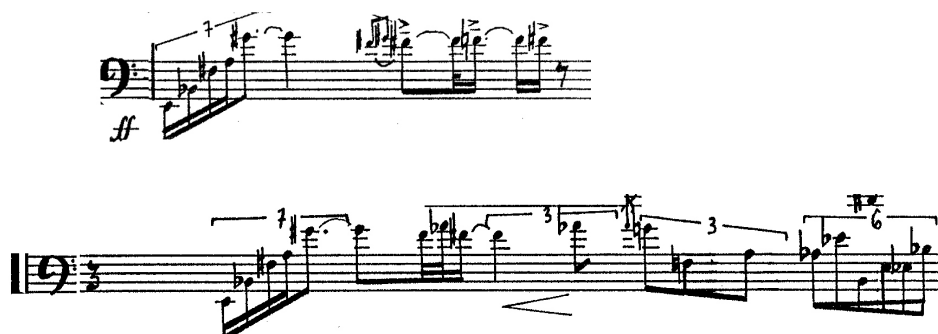
At the same time, the piano part has the same pitches and general rhythmic structure in both measures 47 and 48, and the clarinet’s answering comment is also repeated.

Example 56. Movement I, measure 47 as seen in measure 48 (piano)



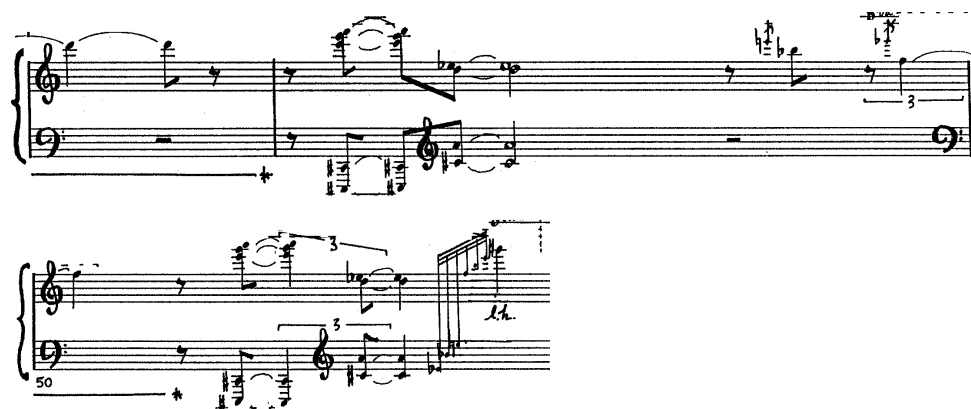
The arpeggiated head-motive of the cello phrase from measure 48 reappears in measures 49 and 53, but with differing continuations each time. Measures 48 and 53 are the most parallel in their continuations, while measure 49 offers more contrast. This arpeggio motive becomes one of the important figurations in the solo passages of the second movement.

Example 57. Movement I, measure 48 as seen in measures 49 and 53 (cello)



Here, again, the piano part plays the same pitches for the first two chords in both measures 49 and 50. Throughout this section, although there is a great deal of rhythmical motivic activity, the repeated (and transposed) elements give a cohesion, if not an almost static quality to the music, as the main body of the movement winds down to the coda.

Example 58. Movement I, measure 49 as seen in measure 50 (piano)



The piano solo begins the coda at the *meno mosso* in measure 56. Ran “rounds” this final section by restating this piano phrase at the end of the coda in measure 64, with a doubled “C” added to the final sonority. This brief but specific recall reflects, in miniature, both the external and internal ternary usages in the movement.

Example 59. Movement I, measure 56 as seen in measure 64 (piano)

Movement II

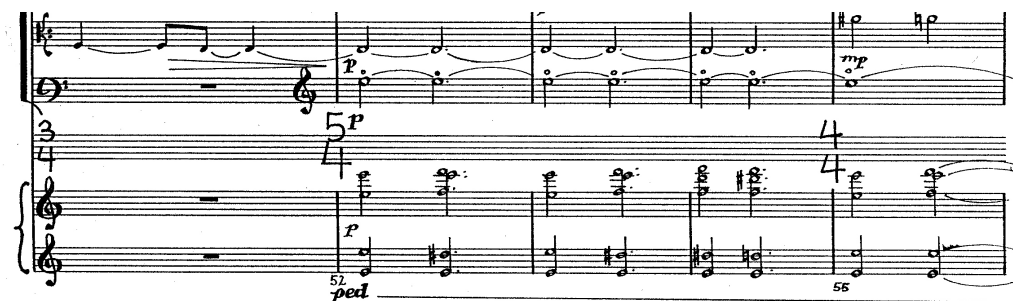
The first two chords which begin the solo piano phrase in measure 1 reappear in exact pitches in measure 13, but in a broken thirty-second-note motive, rather than in two half-note chords. Again in measure 19, the first two chords are from the beginning of this movement now with half-diminution in rhythm (2+3 : 1+1.5). In the first instance (measure 1) the chords provide the head-motive for a longer chorale-style phrase in the piano. In measure 13, the piano offers a comment in the middle of a phrase by the strings and clarinet (in the tutti section). In measure 19, the piano chords return in the middle of the extended clarinet solo, and are briefly joined in the “interruption” by the viola. Thus, these chords provide a unifying element across the first three sections of the movement.

Example 60. Movement II, measure 1 as seen in measures 13 and 19 (piano)



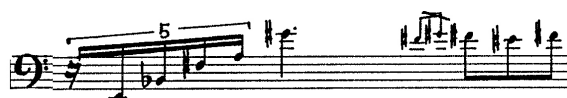
In addition, the progression of sonorities from the piano solo introduction is recalled completely in the coda (measure 52) in combination with the string instruments. From measure 55 onward, the piano repeats the two chords of measure 4 (in 4/4 time), but in gradually augmented values, as the movement slows to a halt.

Example 61. Movement II, measures 1-4 as seen in measures 52-55 (piano)



In an interesting cross-reference between movements, the cello's arpeggio motive in measures 48, 49 and 53 of movement I reappears as an exact quotation in measures 30 and 37 of the second movement. In both instances in the second movement, the cello melody continues in the same manner as in the first movement but without the exact duplication of pitches and rhythm. However, structurally, measure 30 serves as the head-motive for the cello's solo section, while in measure 37, the cello's comment ends the clarinet and piano duo, and announces the return of the tutti.

Example 62. Movement I, measures 48, 49, and 53 (see Example 57)
as seen in measures 30 and 37 of Movement II (cello)



The violin II line in measures 43-44 and 46-47 has the same melody until the last two notes. This gives a quasi antecedent/consequent structure to the closing phrases of this tutti section, as the two instances are supported by differing harmonic pedals.

Movement III

The piano's chordal progressions from the first three measures of the "A" section return in several places throughout the movement. Although these first measures serve as an introductory piano solo, later these chordal progressions appear with changed functions, as they become "harmonic" support for other instrumental motives and are slightly altered in rhythm. In measures 48-50, section "C" is concluded with this reference to "A"; and the "X" section begins. Only the first six chords of the first measure occur, this time in a straight-forward triplet quarter-note pattern which counterpoints the frenzied sixteenth-note scales in the other instruments. In measures 68-87, the return of C' is announced by the beginning A motive. The complete chordal sequence of the first three measures appears: the chords of the first measure are rhythmically augmented, but still in the same proportion; the second measure is quoted in the exact rhythm as before, with a prolongation at the end; and the third measure is replicated exactly. Here, the chords add support to a two-voice counterpoint in the strings. In measure 112, the solo piano's chordal progressions are separated by arpeggiated grace-note flourishes in this "quasi-cadenza" section. In measure 113-119, this "A" motive continues into the F section. The complete three measures is again quoted in the original rhythm, but with a two-chord repetition in the middle of the second measure. This time the piano provides support for the clarinet solo, and is joined at the climax by the strings.

Example 63. Movement III, measures 1-3 as seen in measures 48-50, 68-87, 112, and 113-119 (piano)

→

Stately, majestic
 7/4 $\text{♩} = 60$
f
allarg.
a tempo
8va
16 4
ped.
with bravura, resonant
 * (see note)

→

ff
3 a tempo
16 4
ped.
with bravura, resonant
 * (see note)

→

molto energico
 5/8 $\text{♩} = 92$
f
subito, as before.
subito, as before.
subito, as before.
subito, as before.
subito, as before.
ff majestic

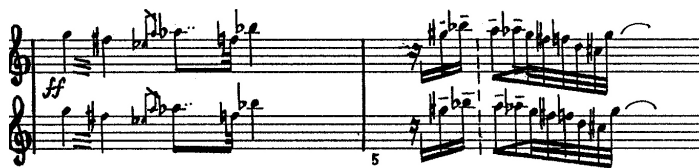
Example 63. (continued)

The image displays a musical score for Example 63 (continued). The top system features a string section (Violins I, Violins II, Violas, Cellos, and Double Basses) and a piano part. The tempo is marked $J = 60$ and the mood is *stately, majestic*. The key signature has one flat (B-flat). The string section begins with a *bell in air* effect, marked *triumphant*. The piano part starts with a *subito* dynamic. The bottom system continues the piano part, marked *ff with aplomb*. The score includes various musical notations such as triplets, sixteenth notes, and rests. Arrows indicate the flow of the music from the top system to the bottom system.

The piano's trill motive which was labeled "X" in chapter 1 is also a significant gesture in this rondo movement. The "X" interrupts the musical continuity of the linear motion and creates a very clear start for each new section. Measures 20-23 in the piano

constitute the second “X” section, and are exactly quoted from measures 4-7. Measure 50 (section X’) begins a fragment of the “X” idea with the same pitches, but the strings immediately imitate this motive a minor 7th lower. The last appearance of “X” in the piano in measure 133 is just a short, transposed recall of this trill motive in the coda of the movement.

Example 64. Movement III, measures 4-5 as seen in measures 50-51, and 133



Measures 50-51 (piano, strings)



Measure 133 (piano)



The arpeggio motive of measure 11 was originally derived from the second violin motive in measure 22 of the first movement. Within the “B” section the clarinet arpeggio in measure 18 quotes the same pitches from measure 11, but in rhythmic diminution. The consequent phrase in the following bars continues the exact pitches and rhythmic diminution, but is slightly elaborated by several E-flats. (elaboration not shown)

Example 65. Movement III, measures 11-12 as seen in measures 18-19 (clarinet)

The image displays two systems of musical notation. The top system covers measures 11 and 12, with the Clarinet part in measure 18. The bottom system covers measures 18 and 19, with the Clarinet part in measure 19. The Clarinet part features a rhythmic diminution of the arpeggio motive from measure 11, with a 3-measure rest in measure 18 and a 4-measure rest in measure 19. The Clarinet part is marked with dynamics: *mp*, *f*, *p*, and *ff*. The string parts are marked with dynamics: *mp*, *f*, *p*, and *ff*. The Clarinet part is marked with articulation: *>* (accent) and *>>* (staccato). The Clarinet part is marked with phrasing: *<* (phrasing slur) and *<<* (phrasing slur). The Clarinet part is marked with breath marks: *<* (breath mark) and *<<* (breath mark). The Clarinet part is marked with a 3-measure rest in measure 18 and a 4-measure rest in measure 19. The Clarinet part is marked with a 3-measure rest in measure 18 and a 4-measure rest in measure 19.

The C section (mm. 24-35) returns as section C' in measures 68-73. In measures 24-35, the two violins play a quasi-ostinato melody in changing meters. This melody repeats four times in units which are three measures in length. The second appearance (mm. 68-73) adds the opening piano chords as accompaniment in a unique combination of prominent ideas of this movement.

Within section F, the solo piano motive in measures 121-122 returns twice in measures 125-6 and 127-8. In the latter two statements, the motive is supported by sustained string chords.

Second Level:

The second level of pitch structure will show several themes which appear in transposition in different sections.

Movement I

The opening statement of this work returns in measure 45 of movement I, supporting the formal structure of the first movement as ABA'. Although some pitches reappear in measure 45, the ear is also reminded by the additive affect in the rhythmic building of the harmony. The work, as a whole, is also rounded in conclusion when the coda of the third movement begins (in m. 132) with a similar effect. Again, the pitches are partially identical.

Example 66. Movement I, measure 1 as seen in measures 45-46,

♩ = 66 con spirito, marcato I

The musical score for measures 45-46 is written for piano, violin, and cello/bass. The tempo is marked **♩ = 66 con spirito, marcato**. The key signature has one sharp (F#). The piano part is in 3/4 time and includes a **ped** (pedal) marking. The violin and cello/bass parts are also in 3/4 time. The piano part features dynamics such as **sfzmf**, **f**, **sfzP**, **p**, and **ff**. The violin and cello/bass parts have various articulations and dynamics, including **sfzmf**, **f**, **sfzP**, and **p**.

Measures 45-46

4 piu mosso
♩ = ca. 96

The musical score for measures 45-46 is written for piano, violin, and cello/bass. The tempo is marked **4 piu mosso** with a tempo indication of **♩ = ca. 96**. The key signature has one sharp (F#). The piano part is in 4/4 time and includes a **ped** (pedal) marking. The violin and cello/bass parts are also in 4/4 time. The piano part features dynamics such as **sfzP**, **sfzPoub**, and **ff**. The violin and cello/bass parts have various articulations and dynamics, including **sfzP**, **sfzPoub**, and **ff**.

and Measures 131-133 of Movement III

Movement III

The melodic contour in the violins, which is established in measures 24-26 of the C section and repeated at the same level through measure 36 (and again briefly, in measure 40), becomes a constantly-transposing inversion of the original motive beginning in measure 74 of the C' section (see Example 67). Interestingly enough, this inversion (in m. 74) begins by using the original "C#-D" in retrograde order. As before, the three-bar phrase repeats, beginning in measure 77, but this time in variation. Then the complete section (mm. 74-79) is again quoted exactly in measures 81-86. In all three of these sections, the motivic contour and rhythm strongly unify the music, and recall the earlier statement. In comparing the accompanying lower-string melodies, one finds that the line in measures 74-80 is an exact quote of measures 30-36 – now paired with a differing

version of the violins' motive! In measures 81-86, this line is repeated in exact pitches.

In summary, the upper string melodies are the same in measures 24-29, 30-36 and 68-73, and the second version occurs in measures 74-79 and 81-86. The lower string lines are the same in measures 24-29 and 68-73, but have a second version in measures 30-36, 74-79 and 81-86. The diagram below demonstrates how these two musical ideas match and then cross-relate.

Example 67. Movement III, measure 24 as seen in mm. 74-75



Measures 74-75



TABLE IV

	C		C'		
	24-29	30-36	68-73	74-79	81-86
phrase (violins)	1	1	1	2	2
phrase (lower strings)	1	2	1	2	2
piano			chord progression	chord progression	

This makes measures 68-73 a quote of measures 24-29 in both string parts, but Ran adds the element of supporting piano progressions in the second section (in mm. 68-73). In addition, measures 81-86 is a quote of measures 74-79 in the strings, but the piano support appears only in the first section (mm. 74-79). This leaves measures 30-36 with the “cross-related” string melodies and no supporting piano. This shows a fascinating combination of the string phrases, with a layer of piano support (also recalling earlier elements), which results in five similar sections of which none are exactly alike!

The piano part in measure 66 of section D is derived from measure 61 but returns with a thicker texture and slightly changed intervals when it is transposed. One measure later, the violin I imitates the piano a perfect fourth higher, until the last beat of measure 67.

Example 68. Movement III measure 61 as seen in measures 66 and 67

Measure 61 (piano)



Measure 66 (piano)



Measure 67 (violin I)



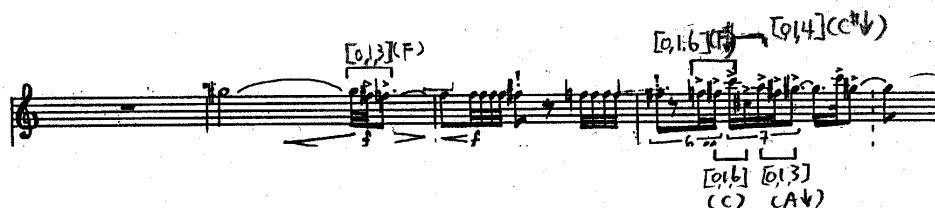
Third Level:

First, I chose the most obvious motives and cadence sonorities from each movement, to find the common sets among them. There are five basic set elements: [0, 1, 2], [0, 1, 3], [0, 1, 4], [0, 1, 5], and [0, 1, 6]. Since all five share the [0, 1] dyad, all of these three-note sets are Rp related by Forte's definition of potential pitch similarity. That is, all are obviously capable of having two of their three pitches in common under transposition and/or inversion. In addition, the interval vector of the [0, 1, 3] set has Forte's R1 and R2 relationships with the [0, 1, 4] and [0, 1, 2] sets respectively; the interval vector of the [0, 1, 4] set has R1 relationships with the [0, 1, 3] and [0, 1, 5] sets; and the interval vector of the [0, 1, 5] set has R1 relationships with the [0, 1, 4] and [0, 1,

6] sets. This comparison reinforces maximum similarity as also defined by Forte for interval content. Combinations of these five sets can be found in many places.

For example, in measures 10-13 of the first movement (see Example 69), the clarinet's first three notes: G#, F#, and F, form the [0, 1, 3] (F), and are followed in measure 12 by imbrication patterns of [0, 1, 6] (F# down), [0, 1, 6] (C), [0, 1, 4] (C# down) and later [0, 1, 3] (A down) respectively.

Example 69. Movement I, measures 10-13 (clarinet)



While this listing does not include every overlapping trichord in this line, these five sets address the preponderant structure of the phrase. Another significant example from the same movement happens in measures 34-35.

Example 70. Movement I, measures 34-35 (piano, l. h.)



In Example 70, we can identify the three-note imbrication patterns in the left hand of the piano as being the consecutive eight sets of [0,1, 6] on (F, B down, Bb, E down, Eb, A down, Ab, and D down), followed by [0, 1, 2] (C), and later three sets of [0, 1, 6]

(C, F# down, and F). (The first of each group cited is labeled on the example.) In the second movement, measure 18 (Example 71), the solo clarinet line clearly plays three-note adjacent, not imbricated patterns: they are sets [0, 1, 6] (D), [0, 1, 4] (F), [0, 1, 6] (F), and [0, 1, 3] (Eb down).

Example 71. Movement II, measure 18 (clarinet)



These five subsets, [0, 1, 2], [0, 1, 3], [0, 1, 4], [0, 1, 5] and [0, 1, 6], become the most consistent motivic and sonority sources in this work, although the composer said that this is a “freely composed” work. These dominant subsets combine to form the dominant supersets in each section. The dominant superset often happens when great tension (i.e. a cadence point or climax) or an important solo line is present. Obviously, when more subsets appear together, the density of the tone color is richer, and the sonority is closer to the superset. A dominant superset is a collection of many of the important subsets used in various sections of the piece. For instance, a “dominant superset” such as [0, 1, 2, 3, 6, 7], that potentially contains all of the above subsets in various combinations, provides the resource for delineation of subsets, and forms basic vertical sonorities or linear phrases in the movements throughout a complete work. A dominant subset, such as [0, 1, 6], is a set that contains the pitches which temporarily dominate and form the basic vertical sonorities or linear motives of a certain movement, several movements, or the entire work. All subset members of a dominant superset are

not necessarily separately identifiable in each moment of music, but some subsets may be evident within the superset usage.

Below are listed prominent solo passages and cadence points from the movements. The pitch identifier accompanies each superset. I have designated the five subsets as “A” through “E”, in the order that they appear in Forte’s original listing.

$$[0, 1, 2] = A \quad [0, 1, 3] = B \quad [0, 1, 4] = C \quad [0, 1, 5] = D \quad [0, 1, 6] = E$$

Movement I

Solo passages:

TABLE V

measure(s)	instrument	pc set	potential combination of subsets
6-8	clarinet	[0, 1, 2, 3, 6, 7] (A down)	A+B+C+D+E
11-12 and 26	clarinet	[0, 1, 3, 7, 8] (F)	B+C+D+E
23	clarinet	[0, 1, 2, 3, 5, 8, 9] (E down)	A+B+C+D+E
44	clarinet	[0, 1, 3, 4, 6, 7] (G#)	B+C+E
45-46	piano	[0, 1, 3, 6, 7, 9] © or F# down)	B+C+E

In measures 6-8 of the first movement, the clarinet declares a fanfare-like melody that contains the five subsets: A-E. Ran takes these potential subsets from measures 6-8, and reconstructs them in various ways to generate a new musical idea in measure 23. (See Example 72.) Varying the original motive in the progress of the entire piece or

section is a classic compositional technique. However, Ran's treatment is done in her own unique way. She uses the five subsets as five melodic elements, subsets A-E.

Although these two melodies have different pc sets, both sets contain subsets A-E. The new combinations of subsets unify the entire piece even though the choice of pitches seems random, since the melodic contours, and rhythmic articulation are quite different.

Example 72. Movement I, measure 23 (clarinet)



Two other examples of a clarinet motive in measures 11-12 and 26 remind one of the earlier “fanfare-like” melody in measures 6-8. Both of these later melodies have the same pitches but in a slightly different rhythmic context. These clarinet lines have the pc set [0, 1, 3, 7, 8] (F) which contains the subsets of B, C, D, and E. Compared to the solo line in measures 6-8, the melody has four of the original five three-note subsets. But this 5-note set is not a subset of the 6-note set in measures 6-8. Therefore, the smaller subsets show the interval set relationships not seen directly between the 5-note and 6-note sets.

The clarinet part in measure 44, and the piano part in measures 45 and 46 consist of the “liked-sized” but different pc sets [0, 1, 3, 4, 6, 7] (G#) and [0, 1, 3, 6, 7, 9] (C down) respectively. (See Example 73.) But both sets consist of subsets B, C, and E. The missing subsets in both examples are A and D. The clarinet motive appears in the end of the B section and the piano appears in the beginning of the returning A' section to show a

connection between the two sections, although each of the two instruments has its own characteristic set of pitches and articulations.

Example 73. Movement I, measures 44-46

Cadences:

TABLE VI

measure(s)	instruments	pc sets	potential combination of subsets
4	all	[0, 2, 3, 4, 6, 8] (D# down)	A+B+C+D+E
14	piano	[0, 1, 3, 6, 7] (D#)	B+C+E
56	strings	[0, 1, 3] (A)	B
57 and 64	piano	[0, 1, 2, 4, 5, 7] © down)	A+B+C+D+E

In addition to melodic usage, the five subsets also play essential roles in cadence points. In measure 4, the cadence shows a dense sonority, as the opening fanfare-like melody culminates in a combination of all the subsets.

The internal subsection of Aa' begins in measure 14 and has the same pitches as the opening theme, except for the addition of the chord in the piano part (which has the sonority of the octatonic scale). Measure 56 is an example of the single subset, "B". This occurs just before the coda, as the subset B is prolonged from the previous measure.

A similar sonority which also contains subsets A-E appears in the last chords of measures 57 and 64 in the piano. This set, [0, 1, 2, 4, 5, 7] (♭ down) serves both the beginning and ending of the coda. In comparison, Ran uses liked-sized sets in a fuller sonority to introduce and to end the movement.

Example 74. Movement I, measures 57 and 63-64 (all)

The musical score for Example 74 consists of two systems. The first system shows measures 57 and 63. The piano part (bottom staff) begins with a chord in measure 57, followed by a melodic line in measure 63. The vocal or instrumental line (top staff) has a melodic phrase in measure 57 and a more complex phrase in measure 63. The score includes dynamic markings (mp, pp), articulation (ped, foradual), and tempo changes (rit., Lento, senza misura, al niente). The second system shows measures 64 and 65. The piano part continues with a melodic line in measure 64 and a chord in measure 65. The vocal line has a melodic phrase in measure 64 and a more complex phrase in measure 65. The score includes dynamic markings (pp), articulation (ped), and tempo changes (Lento, senza misura, al niente).

Movement II

Solo passages:

TABLE VII

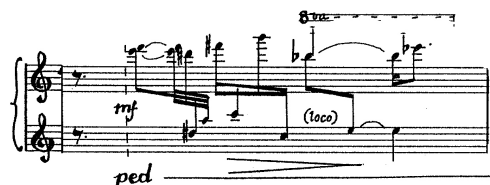
measure(s)	instruments	pc sets	potential combination of subsets
1-6	piano	[0, 1, 2, 3, 4] (C#)	A+B+C
14	piano	[0, 1, 2, 3, 6, 7, 8, 9] (D# or A, C or F# down)	A+B+C+D+E
30 and 37	cello	[0, 1, 2, 4, 6] (A# down)	A+B+C+D+E
38	violin II	[0, 1, 2, 3, 5] (A)	A+B+C+D

The beginning of the second movement shows a similar symmetrical technique, but with a different pitch realization than was used in the first movement. Here, the vertical chords are chromatic expansions of [0, 1, 2] (D#), [0, 1, 2, 3] (D), and [0, 1, 2, 3, 4] (C#) in measures 1, 3, 5 respectively. Also, the pc set in measure 5 represents the combination of the A, B, and C subsets (see Example 75).

Example 75. Movement II, measures 1-6 (piano)

In the next example in measure 14, the piano part plays a quasi-chromatic solo that contains all five subsets, and the symmetrical pc set [0, 1, 2, 3, 6, 7, 8, 9] can be read either way, from D# or A up, or C or F# down (see Example 76).

Example 76. Movement II, measure 14 (piano)



The cello solo of measure 30 reappears in measure 37, and the arpeggio-like melody is derived from the first movement (measure 48). This solo passage contains all five subsets in a much smaller superset. The subsets B and D are read in transposition (B down). The last example is from violin II in measure 38 which is the answer to the previous cello line. This violin melody has the first four subsets, and subset C can be read in transposition (B up), also.

Cadences:

TABLE VIII

measure(s)	instruments	pc sets	potential combination of subsets
8	clarinet and strings	[0, 1, 2, 3, 6, 9] (Bb down)	A+B+C+D+E
14	clarinet and strings	[0, 2, 3, 6] (Bb down)	B+C
17	all	[0, 1, 2, 3, 7] (G)	A+B+D+E
23	piano	[0, 1, 3, 4, 6] (F down)	B+C+E
60	clarinet and strings	[0, 1, 2, 3, 6, 7, 8] (D)	A+B+C+D+E

After the piano introduction of Movement II, the strings appear one after the other and form a sonority in measure 8, as the notes are prolonged from the previous measure. This chord contains all five subsets. Measure 14 is an elision which serves as the end of the last phrase and the beginning of the next (Example 77). In this [0, 2, 3, 6] (Bb down) set one can find the subsets B and C in inversion (G up) and transposition (G# down) respectively. The cadence before the end of the first tutti section in measure 17 has pc set [0, 1, 2, 3, 7] (G) that excludes only the subset C. The cadence of the next section has an even thinner sonority which only contains three subsets. As in the ending of the first movement, the cadence which completes this movement contains all of the five subsets.

Example 77. Movement II, measure 14 (clarinet and strings)

The musical score for Example 77, Movement II, measure 14, is presented in a multi-staff format. The top staff is a single line with a treble clef, containing the tempo marking 'a tempo' and a time signature change to 3/4. Below this are five staves for strings, each with a different clef (treble, alto, tenor, bass, and another bass). The bottom staff is for the clarinet, with a bass clef. The score includes various musical notations such as notes, rests, and dynamic markings ('f', 'mp', 'p', 'mf'). Performance instructions like 'ped' (pedal) and 'gliss' (glissando) are present. A rehearsal mark '13' is located at the bottom left, and a section marked '8va' (8va) is indicated on the right. The score is divided into two systems by a double bar line.

Cadences:

TABLE X

measure(s)	instruments	pc sets	potential combination of subsets
2	piano	[0, 1, 2, 4, 5] (D)	A+B+C+D
3	piano	[0, 1, 4, 5] (A#)	C+D
13	strings	[0, 1, 4, 6] (F#)	C+E
24 (last beat)	strings	[0, 1, 4, 7] (F down)	C+E
101	strings	[0, 1, 2, 6] (A down)	A+D+E
101	piano	[0, 1, 2, 6] (B down)	A+D+E
104	clarinet and strings	[0, 1, 3, 5, 7] (D down)	B+D+E
117, 119, 121, and 125	strings	[0, 1, 3, 4, 7, 9, 10] (F)	B+C+D+E
132	clarinet and strings	[0, 1, 3, 4, 6, 9] (F down)	B+C+E
135	piano	[0, 1, 2, 3, 4, 7, 8] (D)	A+B+C+D+E

At the beginning of this movement the first fermata of the piano solo occurs at the end of measure 2. These five chord notes form a sonority with the potential subset combinations of A, B, C, and D. The second fermata occurs one measure later, with a four-note chord. Compared to the first fermata, the second is a potential subset (see Example 81).

Example 81. Movement III, measures 2-3 (piano)

↓

The next two examples are from the strings in measures 13 and 24. Both chords have similar pc sets; and both pc sets have the same potential subset combinations. In the same fashion as in measures 50-51, measure 101 has a dialogue between strings and piano. Both have the same pc sets, but in different transpositions. The piano is a major second higher than the strings. This pc set contains the A, D, and E subsets. The first beat of measure 104 forms pc set [0, 1, 3, 5, 7] (D down). The E subset [0, 1, 6] can be read in inversion as C#, D, and G (Example 82).

Example 82. Movement III, measure 104 (clarinet and strings)

The octatonic-sounding chords appear in several measures (117, 119, 121, and 125). This combination of subsets excludes the A subset. The recall of the beginning occurs in measure 132, but leaves out the piano part. These six notes form a B-C# octatonic scale without Bb and G instead of a five-note whole tone scale. The potential subset combination is B, C, and E (Example 83).

Example 83. Movement III, measure 132 (clarinet and strings)



The third movement ends in a full sonority. The chord contains eleven pitches (no B) and can obviously contain all five subsets in various combinations. This is the same as the endings of the previous two movements, which also potentially have all five subsets in combination (Example 84)

Example 84. Movement III, measure 135 (piano)

In conclusion, Ran uses motivic/melodic segments, sonorities, and phrases in repetitions, variations (transposed) and transformations in unifying this work. On the first two levels, the recall of elements is often quite specific. On the third level of usage (the transformation), the cross-relationships become much more subtle and involve a measure of “potential” relationships in the deepest level of the composition. The potential subset content of larger gestures (in solo passages and cadence sonorities) are a factor in providing unity, while the surface detail is an element of variety, at the same time.

CHAPTER V

USAGES OF SPECIFIC INTERVALS: SECONDS, FOURTHS, AND FIFTHS

Throughout this work we find that the composer emphasizes seconds and fourths or fifths which include both perfect intervals and tritones. These intervals are especially present in the melodic lines and are used sometimes in parallel, with the intervals appearing as adjacencies, or more often as a series of two of the same or different intervals overlapping each other. This “overlapping” technique is also alternated with a “nesting” of intervals, but both are often obscured by the surface adjacencies. The following examples will illustrate the unique way that Ran used these intervals in melodic lines and vertical structures.

Movement I

This excerpt displays a vertical usage of a five-note segment of the whole-tone scale which is symmetrical around B. Such a segment could also be viewed as a series of overlapping thirds around B. In this case, the range displayed by the three core pitches A, B, and C# (see boxed pitches on example) keep this relationship, but the two outer notes G and D# (see circled pitches) are exchanged by octave displacement. This causes the outer adjacent interval to expand into tritones (on both ends of the range), but still keep the symmetrical principle. The five pitches also are symmetrically deployed unto

different octaves with d#1 as the lowest; a1, b1 and c#2 grouped in the middle; and g2 as the highest (see Example 85).

Example 85. Movement I, measures 1-2 (all)



In another example beginning in measure 6, the clarinet plays a fanfare-like melody which begins f#2, a2, d#2. The latter two pitches are a descending tritone (A-D#) followed by a half-step downward (D#-D). Next, the line contains an ascending tritone (D-Ab) and proceeds three half steps down (A-flat-G-F#) to conclude with the opening f#2, a2, and d#2. If one views this line after the first F#, the overlapping pairs; A-D, D#-Ab(G#), and D-G are perfect fifths/fourths between the F#'s. The strings and piano accompany in long notes in contrast to this vivid clarinet melody, and the surface (adjacent) motion of the melody obscures this framework of perfect intervals. The first and last three-note motives of this phrase are the same. In this first solo melody of the work, the surface adjacencies emphasize tritones and half-steps, but the internal structure reveals the intervals of perfect fourths and fifths (See Example 50). This represents an

important element of interval combination in this work. On the following examples I will use two marks, “ \wedge ” and “ \sqcap ” above the notes to illustrate the interval of tritone and perfect 4th/5th respectively, and “ \vee ” under the notes to illustrate the interval of minor second. Also I will use the asterisk (*) to illustrate the [0, 1, 6] motive, which can appear as a unit spanning a perfect fifth with interval adjacencies of a half-step and a tritone, or a variant unit spanning a tritone with interval adjacencies of a perfect fourth and a half-step. Example 86 demonstrates the definition, with two overlapping uses of the perfect fifth span, A-D, and D \sharp -Ab.

Example 86. Movement I, measures 6-8 (clarinet) and diagram

The diagram illustrates the interval relationships between the notes F#, A, D#, D, Ab, and G. Above the notes, the text "perfects/tritones" is written, with an asterisk (*) above A and a tritone symbol (\wedge) above D and Ab. Below the notes, the text "m2's" is written, with a minor second symbol (\vee) under A and D#, and another under D and Ab. The musical notation below shows a clarinet line with a "fz...molto" marking.

Again, the clarinet also has a solo melody starting in measure 10 (see Example 87). Here, the pattern is embedded within the phrase and begins in measure 11 by repeating the first two notes. Then it forms an overlapping pair of parallel perfect fifths/fourths (in musical order) and adds one more overlapping perfect fourth with other intervals within.

Example 87. Movement I, measures 10-13 (clarinet) and diagram

The diagram shows a sequence of notes: F, F#, C, C#, A, F#, G#, C, G#. Above the notes, a line with peaks and valleys connects them, with asterisks marking the first two intervals (F-F# and F#-C). Below the notes, downward-pointing chevrons indicate the intervals: F-F# (minor second), F#-C (tritone), C-C# (minor second), C#-A (perfect fourth), A-F# (tritone), F#-G# (minor second), G#-C (perfect fourth), and C-G# (perfect fifth). Below the diagram is a musical staff in 3/4 time, showing the notes F, F#, C, C#, A, F#, G#, C, G# in a melodic line. The staff includes dynamic markings like *mp* and *f*, and fingering numbers like 3, 4, 5, 8, 3, 1.

As in the previous example, the perfect intervals are not heard as adjacencies, but the half-steps and tritone are part of the surface melody.

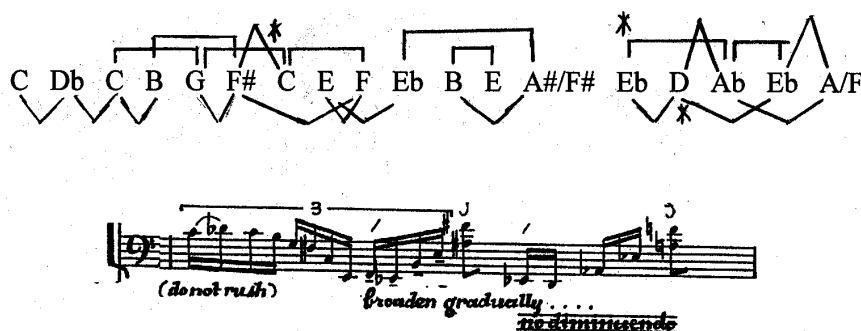
The structure of the next short clarinet example begins with a framework of three overlapping minor seconds and an added perfect fourth. Here, the adjacent intervals are alternating tritones and perfect 4ths/5ths (continuing only with the perfect interval at the end), and the spanning, overlapping relationships are nearly all half-steps. This span of a half-step becomes a third variant of the unit structure which is formed of the same intervals. Note the nested perfect fourth and fifth at the end.

Example 88. Movement I, measure 23 (clarinet) and diagram

The diagram shows a sequence of notes: C#, G, D, G#, D#, B, E, G#. Above the notes, a line with peaks and valleys connects them, with asterisks marking the first three intervals (C#-G, G-D, D-G#). Below the notes, downward-pointing chevrons indicate the intervals: C#-G (tritone), G-D (minor second), D-G# (tritone), G#-D# (minor second), D#-B (perfect fourth), B-E (perfect fourth), and E-G# (perfect fifth). Below the diagram is a musical staff in 3/4 time, showing the notes C#, G, D, G#, D#, B, E, G# in a melodic line. The staff includes dynamic markings like *mp* and *f*, and fingering numbers like 3, 4, 5, 8, 3, 1.

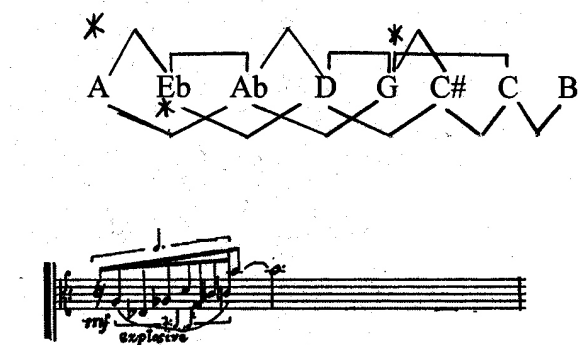
The cello in measure 27 has a mixture of overlapping and serial perfect fifths, fourths, and tritones (from the third note), similar to the structure of the clarinet passage in measures 6-8. Also, as in the Example 87, the predominant adjacencies begin with half-steps, but at the end of this example, there is a complex structure which overlaps the unit spanning a perfect interval with one spanning the half-step! Again, note the nested perfect interval pair in the middle of the line.

Example 89. Movement I, measure 27 (cello) and diagram



In measure 30, the viola has eight different notes which form a large segment of the chromatic scale (E♭ down to G) with one missing note -- B♭. In musical order, this passage begins with an unusually consistent pattern of overlapping half-step spans with alternating perfect fourths and tritones, followed by adjacencies in half-steps. This results in three adjacent tritones separated by perfect intervals. This viola line ends with adjacent half-steps and the complete passage reappears in measure 57.

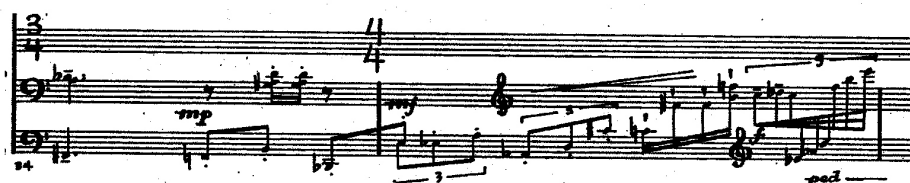
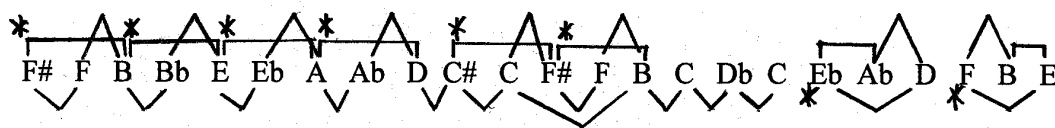
Example 90. Movement I, measure 30 (viola) and diagram



In measures 34-35, in the left hand of the piano, we find that the fourths/fifths are overlapping, and adjacencies are mostly tritones alternating with half steps. This is one of the most consistent and extensive use of the first unit of specific intervals in adjacencies and overlappings. It demonstrates that Ran's tightly organized intervallic structure contains more depth of compositional intuition beyond the surface adjacencies. In the pattern, the specific organization breaks down and reverts to a simple process in the middle of the phrase, but then uses adjacencies that are only perfect intervals and tritones, and the half-steps are overlapping! If we re-arrange the notes in ascending (or descending) order, we will find these notes form an eleven-note chromatic scale with only the "G" missing.

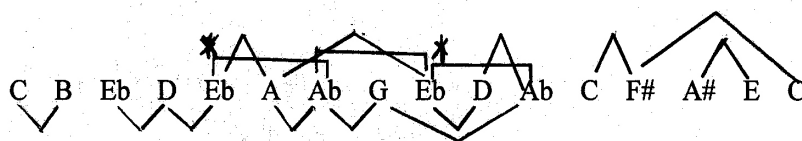
Example 91. Movement I, measures 34-35 (piano, l. h.) and diagram

(pattern breaks)



In measures 46-47 of the clarinet line, a series of notes form a quasi-chromatic scale without C# and F. Musical order shows several overlapping perfect intervals with tritone and half-step adjacencies. In addition, an interesting nesting of half-steps, and later, tritones, also occurs.

Example 92. Movement I, measures 46-47 (clarinet) and diagram



In the end of measure 47, the strings have a very important half-step motive C-Db which is derived from measure 11 (transposed down a perfect fourth). This motive becomes a driving force as it reappears in almost every measure from bars 47 to 51. It reinforces the C and Db phrase beginnings and endings of the clarinet lines which set up a C-like center for this section of the movement.

Example 93. Movement I, measures 11 and 47 (clarinet and strings)

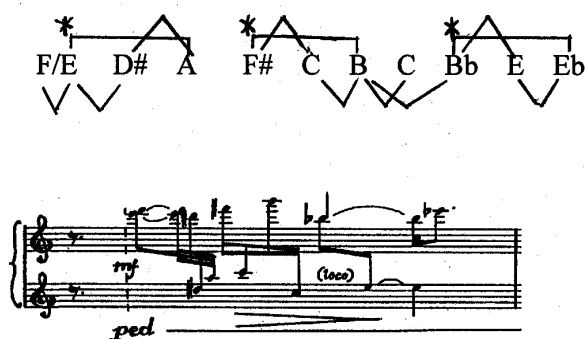


Movement II

The piano opens the second movement with a chordal introduction which is built on “E”. This E becomes the center for other voices which move away in half-step motion. In the right hand, the chromatic voice lines progress as far down as C#, and up to F, but in the left hand the progressions only involve notes down to C#.

In measure 14 we find overlapping and adjacent patterns in the piano. The last seven notes of this measure are framed by a pair of perfect fourths, with another between. The adjacencies within two fourths are tritones followed by half-steps, and the first unit cited is reversed. Half-steps also bridge the center of this series.

Example 94. Movement II, measure 14 (piano) and diagram



In Example 95, the first four notes in measure 18 (E-flat down to D, then up a tritone to G# and another half step to A), present an excellent example of adjacent half-step and tritone intervals, within the span of perfect intervals. Here, Ran demonstrates a tightly constructed overlap of the two $[0, 1, 6]$ motions in symmetry. As in many other examples, the succession of half-steps is often seen in octave displacement. Later in this same measure, the first group of thirty-second notes constitutes a chromatic segment, ranging from D up to A. However, the “unit” and nesting constructions appear only at the beginning of the thirty-second notes.

Example 95. Movement II, measure 18 (clarinet) and diagrams

The image displays two pitch contour diagrams and a musical score for a clarinet part. The first diagram shows a sequence of notes: Eb, D, G#, A, F#, F, Gb, F, B, C, Eb, D. The second diagram shows: Eb, D, Ab, F, E, A, F#, Eb, G, F, G. Below these are two staves of musical notation. The top staff is in treble clef with a key signature of one flat (Bb) and a 2/4 time signature. It contains a melodic line with various dynamics (mf, f, mf, f) and articulations (accents, slurs). The bottom staff is in bass clef, also in 2/4 time, and features a more complex rhythmic pattern with many beamed sixteenth notes and slurs, including a 'mello roll' section.

Movement III

In the “X” motive (beginning in measure 4) the first two notes are the half-step G to F# followed by the tritone E-flat to A, similar to patterns that have been observed in the first two movements. In measure 5, after the five half steps (B-flat down to F), Ran eventually uses an upward tritone to balance the melodic contour. This “X” motive comes back several times later in the movement to suggest a rondo-like form. Note the [0, 1, 6] unit in the middle of the first motive, and at the end of the chromatic line.

Example 96. Movement. III, measures 4-5 (piano) and diagrams

m. 4

G F# Eb A Ab F Bb

m. 5

G# Bb A Ab G F# F D C# G

3/4 a tempo

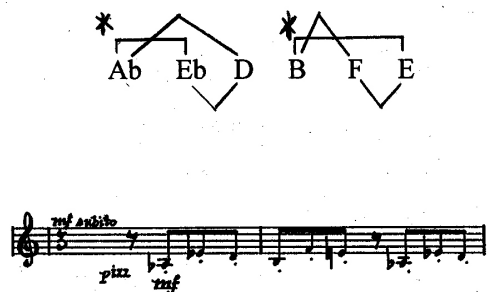
ff

with bravura, resonant

* (see note)

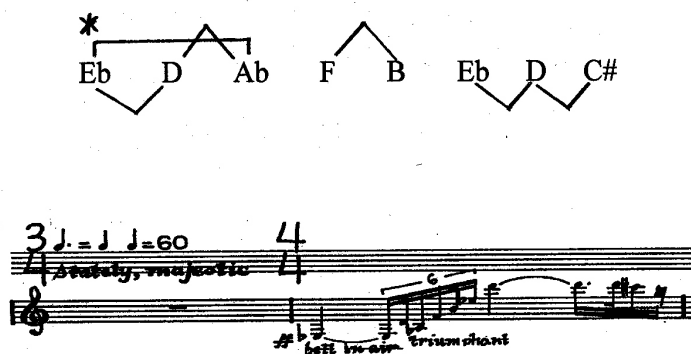
In Example 97, the combination of two intervals happens in sequence. Violin II begins in measure 53 with a perfect fifth, followed by a half-step. But in the next measure, the motive is varied with the use of a tritone instead of a perfect interval, followed by a half-step before the initial motive repeats. Therefore, the span of the first unit is the tritone, and the second is the perfect fourth. Of additional interest is the fact that each unit is grouped (and heard) as a motive, with the second one being treated as a direct variation of the first. This usage is quite overt compared to Ran's usual technique of embedding the unit within a motive or phrase.

Example 97. Movement III, measures 53-54 (violin II) and diagram



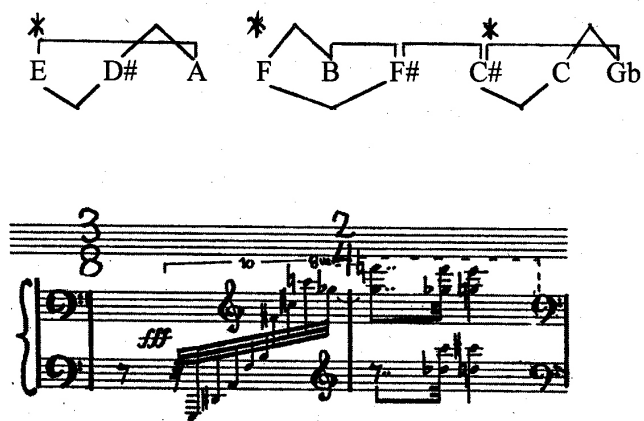
In measure 114, the clarinet begins with an octave-displaced half-step which is followed by two sets of tritones and concludes with two consecutive half-steps. Again, the span of the opening unit is the perfect interval.

Example 98. Movement III, measure 114 (clarinet) and diagram



In this solo piano melody of measure 121, we see a series of adjacent intervals that contain different sizes of fifths. The motive begins with a minor second which is then followed by a pair of tritones, a pair of perfect fifths, and concludes with a half-step, plus one more tritone. Therefore, this thirty-second notes series is essentially opened and closed with transposed units again spanning the perfect interval, with a variant unit between them.

Example 99. Movement III, measure 121 (piano) and diagram



In conclusion, in Ran's seemingly random pitch choice in some sonorities is based on segments of various scales, and many of her motives and melodic gestures are based on the [0, 1, 6] unit which can be extracted from the octatonic or chromatic scale. The three intervals of this unit comprise the vast majority of her linear writing, both as adjacencies, and in overlappings (spans) of the three-note set. But the significance occurs in the number of times Ran uses the changing adjacencies to create this unit.

CONCLUSION

In Ran's early works such as Hyperbolae for piano, Ran tended to begin with a pre-compositional concept, and then to develop the music based on the plan. In Concerto da Camera II, Ran has said that she "composed freely" and did not base the work on any pre-compositional plan. However, there are still some features hidden in the music which show organizational characteristics of Ran's musical style. She seems to be experimenting with new subtleties in composing music.

The most conventional feature is the formal structure of each of the three movements, as the basis for each can be described in classic terms. The first movement is a ternary form with a compounding of the first section defined by the opening statement. The second movement is more freely organized around the ritornello principle of alternation of tutti and smaller instrumental groupings or solos. The third movement is organized on a broad rondo basis as defined by the returning "X" motive, as well as other recurring sections. However, the structure in each movement is also blurred by variations in returning material, and motives used across sections, achieving variety within unity.

The first significant feature examined in this thesis was the manipulation of the notes of whole-tone, octatonic, and chromatic scales in different octave displacements. The opening of the first movement uses the whole-tone scale displaced symmetrically. The second movement begins with a chromatic segment also symmetrically displaced.

And all movements use the half-step (from the latter two types of scales) most often displaced as the interval of a seventh or a ninth. This is especially evident in the half-step presence in each of the subsets cited, and in prominent examples of pc set [0, 1, 6] in all movements.

Another significant aspect studied was the potential combinations of subsets that present the different levels of pitch transformation in melodic and harmonic structure. Although some examples are not easily identified by ear, the five basic subsets dominate the music in motivic gestures and cadence sonorities.

Finally, throughout this work, half-steps, perfect fourths and fifths and tritones are the primary building blocks in motives and melodies, as well as in vertical sonorities. Melodically, these intervals often appear in parallel or over-lapping groupings as well as adjacencies, as the pc set [0, 1, 6] becomes the predominant element of construction.

All of these features illustrate that Concerto da Camera II is not a piece built by random idea whether by intention or intuition, the music has strong structural elements that unify the piece in an aurally coherent style as an organic whole.

In conclusion, this work has a definite structural framework in forms, motives and sonorities. But Ran also uses these unifying elements in a very fluid style. This style also allows a great amount of variation to occur. It is this technique, of deriving both unity and variety from the same compositional procedures, whether intentional or intuitive, that makes this work intriguing to both the listener and the theorist.

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